LX400

USER MANUAL - TECHNICAL GUIDE

020-000167-02

CHRISTIE®

NOTICE for European Union members 《ENGLISH》

This is a Class A product in **European Union**.

> **WARNING** :
> This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

AVIS pour les membres du Union Européenne 《FRANÇAIS》

Le présent appareil est un produit de classe A, dans **Union Européenn**e.

> **AVERTISSEMENT** :
> Le présent appareil est un produit de classe A. En environnement domestique, ce produit est susceptible de provoquer des interférences radio-électriques, auquel cas l'utilisateur devra prendre les mesures adéquates.

BEACHTUNG für Europäischen Union-Mitglieder 《DEUTSCH》

Dies ist ein Produkt der Klasse A, in **Europäischen Union**.

> **WARNUNG** :
> Dies ist ein Produkt der Klasse A. Bei der Verwendung im häuslichen Bereich können Störungen des Radio- oder Fernsehempfangs auftreten. Beim Auftreten derartiger Störungen hat der Benutzer gegebenenfalls Abhilfemaßnahmen zu treffen.

AVISO para los miembros de Unión Europea 《ESPAÑOL》

Este es un producto de Clase A, en **Unión Europea**

> **ADVERTENCIA** :
> Este es un producto de Clase A. En un entorno doméstico este producto puede causar radio interferencias, en cuyo caso el usuario deberá tomar las medidas pertinentes.

DICHIARAZIONE per membri di Unione europea 《ITALIANO》

Questo è un prodotto di Classe A, negli **Unione europea**.

> **AVVERTENZA** :
> Questo è un prodotto di Classe A. In un ambiente domestico, questo prodotto potrebbe causare interferenze radio, nel cui caso l'utente è obbligato a prendere gli adeguati provvedimenti.

BEMERK for EU-medlemmer 《NORSK》

Dette er et klasse A produkt, i **EU**.

> **ADVARSEL** :
> Dette er et klasse A produkt. I et hjemmemiljø kan dette produktet forårsake radiointerferens, og i dette tilfellet anbefales det at brukeren tar tilstrekkelige forholdsregler.

OPMERKING voor de Europese Unie leden 《NERDERLANDS》

Dit is een klasse A product, in **Europese Unie**.

> **WAARSCHUWING** :
> Dit is een klasse A product. In een huiselijke omgeving kan dit product radio-interferentie veroorzaken. De gebruiker is dan verplicht om maatregelen te nemen om de interferentie te ongedaan te maken.

NOTIFICAÇÃO para sócios de União europeus 《PORTUGUÊS》

Trata-se de um produto Classe A, em **União européia**.

AVISO :
Trata-se de um produto Classe A. Num ambiente doméstico, este produto pode provocar interferências rádio, podendo ser necessário tomar medidas adequadas.

通知欧洲联盟成员 《中文》

本产品是 A 级产品在**欧洲联盟（EU）**.

警告 ：
本产品是 A 级产品。在家庭环境中，本产品可能会导致无线电干扰，这种情况下，用户需采取适当的措施。

유럽 연합 (EU) 가입 회원에 대한 통지 《한국어》

이것은 **유럽 연합 (EU)** 에서 클래스 A 제품입니다 .

경고 :
본 제품은 클래스 A 제품입니다 . 본 제품은 거주 환경 내에서 사용자의 적절한 조치를 필요로 하는 무선 간섭을 유발할 수 있습니다 .

ANMÄRKNING för EU-medlemmar 《SVENSKA》

Detta är en klass A-produkter, i **EU**.

VARNING :
Detta är en klass A-produkt. I hemmiljö kan denna produkt orsaka radiostörningar mot vilka användaren måste vidta åtgärder.

ПРЕДОСТЕРЕЖЕНИЕ для членов Европейском Союзе (ЕС) 《РУССКИЙ》

Это изделие Класса А, в **Европейском Союзе (ЕС)**.

ПРЕДУПРЕЖДЕНИЕ :
Это изделие Класса А. В бытовых условиях это изделие может стать причиной возникновения радиопомех, в случае чего пользователь должен предпринять соответствующие меры.

HUOMAA ajaksi Euroopan Unionin jäseniä 《SUOMI》

Tämä on luokan A tuote on **Euroopan unionin**.

VAROITUS :
Tämä laite on luokan A tuote. Kotikäytössä tämä tuote saattaa aiheuttaa radiohäiriötä. Käyttäjän on tällöin ehkä ryhdyttävä korjaaviin toimenpiteisiin.

UWAGA dla członków Unii Europejskie 《POLSKI》

Jest to produkt klasy A, w **Unii Europejskiej**.

ZAGROŻENIE :
Jest to produkt klasy A. W środowisku domowym może on wywoływać zakłócenia radiowe, co oznacza, że użytkownik będzie musiał podjąć odpowiednie środki zaradcze.

CHRISTIE®

Projector

LX400

User Manual – Technical Guide

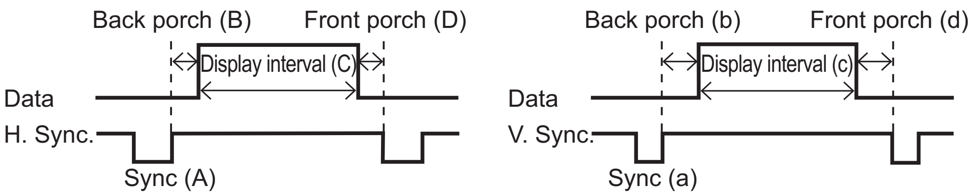
Example of computer signal

Resolution (H x V)	H. frequency (kHz)	V. frequency (Hz)	Rating	Signal mode
720 x 400	37.9	85.0	VESA	TEXT
640 x 480	31.5	59.9	VESA	VGA (60Hz)
640 x 480	37.9	72.8	VESA	VGA (72Hz)
640 x 480	37.5	75.0	VESA	VGA (75Hz)
640 x 480	43.3	85.0	VESA	VGA (85Hz)
800 x 600	35.2	56.3	VESA	SVGA (56Hz)
800 x 600	37.9	60.3	VESA	SVGA (60Hz)
800 x 600	48.1	72.2	VESA	SVGA (72Hz)
800 x 600	46.9	75.0	VESA	SVGA (75Hz)
800 x 600	53.7	85.1	VESA	SVGA (85Hz)
832 x 624	49.7	74.5		Mac 16” mode
1024 x 768	48.4	60.0	VESA	XGA (60Hz)
1024 x 768	56.5	70.1	VESA	XGA (70Hz)
1024 x 768	60.0	75.0	VESA	XGA (75Hz)
1024 x 768	68.7	85.0	VESA	XGA (85Hz)
1152 x 864	67.5	75.0	VESA	1152 x 864 (75Hz)
1280 x 960	60.0	60.0	VESA	1280 x 960 (60Hz)
1280 x 1024	64.0	60.0	VESA	SXGA (60Hz)
1280 x 1024	80.0	75.0	VESA	SXGA (75Hz)
*1280 x 1024	91.1	85.0	VESA	SXGA (85Hz)
*1600 x 1200	75.0	60.0	VESA	UXGA (60Hz)
1280 x 768	47.7	60.0	VESA	W-XGA (60Hz)
1400 x 1050	65.2	60.0	VESA	SXGA+ (60Hz)

NOTE • Be sure to check jack type, signal level, timing and resolution before connecting this projector to a computer.
• Some computers may have multiple display screen modes. Use of some of these modes will not be possible with this projector.
• Depending on the input signal, full-size display may not be possible in some cases. Refer to the number of display pixels above.
• Although the projector can display signals with resolution up to UXGA (1600x1200), the signal will be converted to the projector’s panel resolution before being displayed. The best display performance will be achieved if the resolutions of the input signal and projector panel are identical.
• Automatic adjustment may not function correctly with some input signals.
• The image may not be displayed correctly when the input sync signal is a composite sync or a sync on G.
• The HDMI input does not support the signals marked with *.

Initial set signals

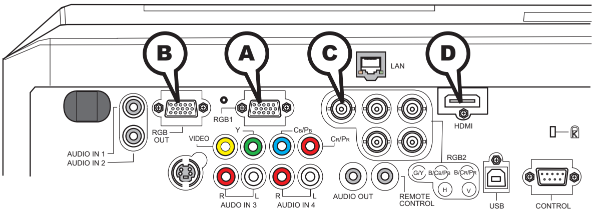
The following signals are used for the initial settings. The signal timing of some computer models may be different. In such case, adjust the items V POSITION and H POSITION in the IMAGE menu.



Computer/ Signal	Horizontal signal timing (μs)			
	(A)	(B)	(C)	(D)
TEXT	2.0	3.0	20.3	1.0
VGA (60Hz)	3.8	1.9	25.4	0.6
VGA (72Hz)	1.3	4.1	20.3	0.8
VGA (75Hz)	2.0	3.8	20.3	0.5
VGA (85Hz)	1.6	2.2	17.8	1.6
SVGA (56Hz)	2.0	3.6	22.2	0.7
SVGA (60Hz)	3.2	2.2	20.0	1.0
SVGA (72Hz)	2.4	1.3	16.0	1.1
SVGA (75Hz)	1.6	3.2	16.2	0.3
SVGA (85Hz)	1.1	2.7	14.2	0.6
Mac 16" mode	1.1	3.9	14.5	0.6
XGA (60Hz)	2.1	2.5	15.8	0.4
XGA (70Hz)	1.8	1.9	13.7	0.3
XGA (75Hz)	1.2	2.2	13.0	0.2
XGA (85Hz)	1.0	2.2	10.8	0.5
1152 x 864 (75Hz)	1.2	2.4	10.7	0.6
1280 x 960 (60Hz)	1.0	2.9	11.9	0.9
SXGA (60Hz)	1.0	2.3	11.9	0.4
SXGA (75Hz)	1.1	1.8	9.5	0.1
SXGA (85Hz)	1.0	1.4	8.1	0.4
UXGA (60Hz)	1.2	1.9	9.9	0.4
W-XGA (60Hz)	1.7	2.5	16.0	0.8
SXGA+ (60Hz)	1.2	2.0	11.4	0.7

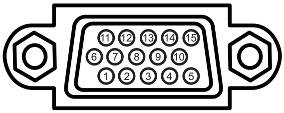
Computer/ Signal	Vertical signal timing (lines)			
	(a)	(b)	(c)	(d)
TEXT	3	42	400	1
VGA (60Hz)	2	33	480	10
VGA (72Hz)	3	28	480	9
VGA (75Hz)	3	16	480	1
VGA (85Hz)	3	25	480	1
SVGA (56Hz)	2	22	600	1
SVGA (60Hz)	4	23	600	1
SVGA (72Hz)	6	23	600	37
SVGA (75Hz)	3	21	600	1
SVGA (85Hz)	3	27	600	1
Mac 16" mode	3	39	624	1
XGA (60Hz)	6	29	768	3
XGA (70Hz)	6	29	768	3
XGA (75Hz)	3	28	768	1
XGA (85Hz)	3	36	768	1
1152 x 864 (75Hz)	3	32	864	1
1280 x 960 (60Hz)	3	36	960	1
SXGA(60Hz)	3	38	1024	1
SXGA (75Hz)	3	38	1024	1
SXGA (85Hz)	3	44	1024	1
UXGA (60Hz)	3	46	1200	1
W-XGA (60Hz)	3	23	768	1
SXGA+ (60Hz)	3	33	1050	1

Connection to the ports



ⒶRGB 1, ⒷRGB OUT

D-sub 15pin mini shrink jack
• Video signal: RGB separate, Analog, 0.7Vp-p, 75Ω terminated (positive)
• H/V. sync. signal: TTL level (positive/negative)
• Composite sync. signal: TTL level



At RGB signal

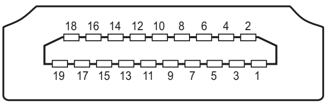
Pin	Signal	Pin	Signal
1	Video Red	9	(No connection)
2	Video Green	10	Ground
3	Video Blue	11	(No connection)
4	(No connection)	12	Ⓐ: SDA (DDC data), Ⓑ : (No connection)
5	Ground	13	H. sync / Composite sync.
6	Ground Red	14	V. sync.
7	Ground Green	15	Ⓐ: SCL (DDC clock), Ⓑ : (No connection)
8	Ground Blue		

ⒸRGB 2(G/Y, B/C_B/P_B, R/C_R/P_R, H, V)

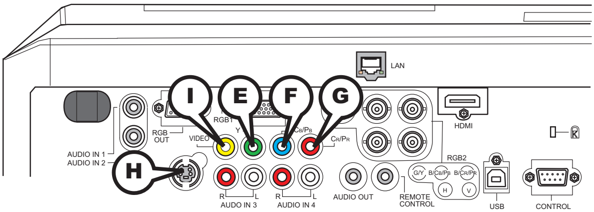
• BNC jack x 5
• Video : Analog 0.7Vp-p, 75Ω terminator
• H/V, sync, : TTL level (positive/negative)
• Composite sync, : TTL level

ⒹHDMI

• Type :Digital audio/video connector
• Audio signal : Linear PCM (Sampling rate; 32/44.1/48 kHz)



Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2 +	8	T.M.D.S. Data0 Shield	15	SCL
2	T.M.D.S. Data2 Shield	9	T.M.D.S. Data0 -	16	SDA
3	T.M.D.S. Data2 -	10	T.M.D.S. Clock +	17	DDC/CEC Ground
4	T.M.D.S. Data1 +	11	T.M.D.S. Clock Shield	18	+5V Power
5	T.M.D.S. Data1 Shield	12	T.M.D.S. Clock -	19	Hot Plug Detect
6	T.M.D.S. Data1 -	13	CEC		
7	T.M.D.S. Data0 +	14	Reserved(N.C. on device)		



COMPONENT VIDEO ⒺY, ⒻCB/PB, ⒼCR/PR

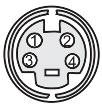
RCA jack x3

• System: 480i@60, 480p@60, 576i@50, 576p@50, 720p@50/60, 1080i@50/60, 1080p@50/60

Port	Signal
Y	Component video Y, 1.0±0.1Vp-p, 75Ω terminator with composite sync
CB/PB	Component video CB/PB, 0.7±0.1Vp-p, 75Ω terminator
CR/PR	Component video CR/PR, 0.7±0.1Vp-p, 75Ω terminator

ⒽS-VIDEO

Mini DIN 4pin jack



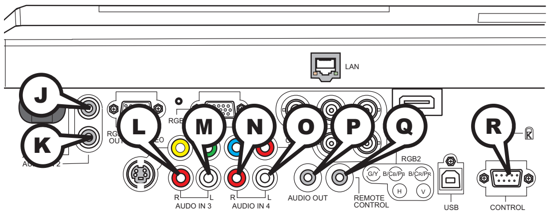
Pin	Signal
1	Color signal 0.286Vp-p (NTSC, burst), 75Ω terminator Color signal 0.300Vp-p (PAL/SECAM, burst) 75Ω terminator
2	Brightness signal, 1.0Vp-p, 75Ω terminator
3	Ground
4	Ground

ⒾVIDEO

RCA jack

• System: NTSC, PAL, SECAM, PAL-M, PAL-N, NTSC4.43

• 1.0±0.1Vp-p, 75Ω terminator



ⒿAUDIO IN 1, ⓀAUDIO IN 2

Ø3.5 stereo mini jack

• 500 mVrms 47kΩ terminator

AUDIO IN 3 ⓁR, ⓂL, AUDIO IN 4 ⓃR, ⓄL

RCA jack x2

• 500 mVrms 47kΩ terminator

ⓅAUDIO OUT

Ø3.5 stereo mini jack

• 500 mVrms 1kΩ output impedance

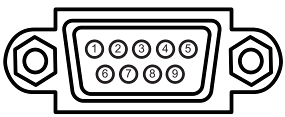
ⓆREMOTE CONTROL

Ø3.5 stereo mini jack

• To be connected with the remote control that came with the projector.

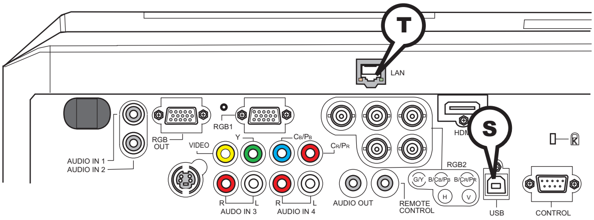
ⓇCONTROL

D-sub 9pin plug



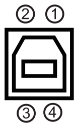
• About the details of RS-232C communication, please refer to the following page.

Pin	Signal	Pin	Signal	Pin	Signal
1	(No connection)	4	(No connection)	7	RTS
2	RD	5	Ground	8	CTS
3	TD	6	(No connection)	9	(No connection)



ⓈUSB

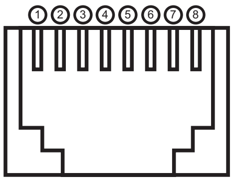
USB B type jack



Pin	Signal
1	+5V
2	- Data
3	+ Data
4	Ground

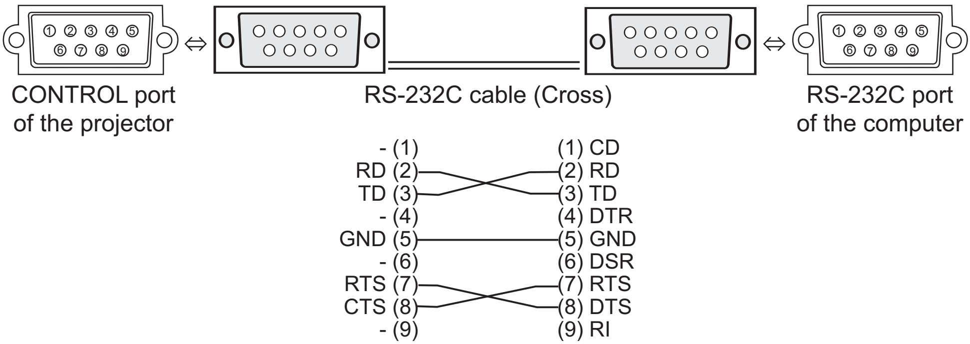
ⓉLAN

RJ-45 jack



Pin	Signal	Pin	Signal	Pin	Signal
1	TX+	4	-	7	-
2	TX-	5	-	8	-
3	RX+	6	RX-		

RS-232C Communication



Connecting the cable

1. Turn off the projector and the computer.
2. Connect the CONTROL port of the projector with a RS-232C port of the computer by a RS-232C cable (cross). Use the cable that fulfills the specification shown in the previous page.
3. Turn the computer on, and after the computer has started up turn the projector on.

Communications setting

19200bps, 8N1

1. Protocol

Consist of header (7 bytes) + command data (6 bytes).

2. Header

BE + EF + 03 + 06 + 00 + CRC_low + CRC_high
CRC_low : Lower byte of CRC flag for command data
CRC_high : Upper byte of CRC flag for command data

3. Command data

Command data chart

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting code	
low	high	low	high	low	high

Action (byte_0 - 1)

Action	Classification	Content
1	SET	Change setting to desired value.
2	GET	Read projector internal setup value.
4	INCREMENT	Increment setup value by 1.
5	DECREMENT	Decrement setup value by 1.
6	EXECUTE	Run a command.

Requesting projector status (Get command)

(1) Send the request code Header + Command data ('02H'+'00H'+ type (2 bytes)+ '00H' +'00H') from the computer to the projector.
(2) The projector returns the response code '1DH'+ data (2 bytes) to the computer.

Changing the projector settings (Set command)

(1) Send the setting code Header + Command data ('01H'+'00H'+ type (2 bytes) + setting code (2 bytes)) from the computer to the projector.
(2) The projector changes the setting based on the above setting code.
(3) The projector returns the response code '06H' to the computer.

Using the projector default settings (Reset Command)

(1) The computer sends the default setting code Header + Command data ('06H'+ '00H' + type (2 bytes) +'00H'+'00H') to the projector.
(2) The projector changes the specified setting to the default value.
(3) The projector returns the response code '06H' to the computer.

Increasing the projector setting value (Increment command)

(1) The computer sends the increment code Header + Command data ('04H'+ '00H'+ type (2 bytes) +'00H'+'00H') to the projector.
(2) The projector in creases the setting value on the above setting code.
(3) The projector returns the response code '06H' to the computer.

Decreasing the projector setting value (Decrement command)

(1) The computer sends the decrement code Header + Command data ('05H'+ '00H'+ type (2 bytes) +'00H' + '00H') to the projector.
(2) The projector decreases the setting value on the above setting code.
(3) The projector returns the response code '06H' to the computer.

When the projector cannot understand the received command

When the projector cannot understand the received command, the error code '15H' is sent back to the computer.
Sometimes the projector cannot properly receive the command. In such a case, the command is not executed and the error code '15H' is sent back to the computer. If this error code is returned, send the same command again.

When the projector cannot execute the received command.

When the projector cannot execute the received command, the error code '1CH' + 'xxxxH' is sent back to the computer. When the data length is greater than indicated by the data length code, the projector ignore the excess data code.
Conversely when the data length is shorter than indicated by the data length code, an error code will be returned to the computer.

NOTE • Operation cannot be guaranteed when the projector receives an undefined command or data.
• Provide an interval of at least 40ms between the response code and any other code.
• The projector outputs test data when the power supply is switched ON, and when the lamp is lit. Ignore this data.
• Commands are not accepted during warm-up.

Command Control via the Network

Communication Port

The following two ports are assigned for the command control.

TCP #23
TCP #9715

Command Control Settings

Configure the following items form a web browser when command control is used.

Port Settings			
	Netowrk Control Port1 (Port: 23)	Port open	Click the **[Enable]** check box to open **[Network Control Port1 (Port: 23)]** to use TCP #23. Default setting is "Enable".
		Authentication	Click the **[Enable]** check box for the **[Authentication]** setting when authentication is required. Default setting is "Disable".
	Network Control Port2 (Port: 9715)	Port open	Click the **[Enable]** check box to open **[Network Control Port2 (Port: 9715)]** to use TCP #9715. Default setting is "Enable".
		Authentication	Click the **[Enable]** check box for the **[Authentication]** setting when authentication is required. Default setting is "Enable".

When the authentication setting is enabled, the following settings are required.

Security Settings			
	Network Control	Authentication Password	Enter the desired authentication password. This setting will be the same for **[Network Control Port1 (Port: 23)]** and **[Network Control Port2 (Port: 9715)]**. Default setting is blank.
		Re-enter Authentication Password	

Command Format

[TCP #23]

1. Protocol

Consist of header (7 bytes) + command data (6 bytes)

2. Header

BE + EF + 03 + 06 + 00 + CRC_low + CRC_high
CRC_low: Lower byte of CRC flag for command data
CRC_high: Upper byte of CRC flag for command data

3. Command data

Command data chart

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting code	
low	high	low	high	low	high

Action (byte_0 - 1)

Action	Classification	Content
1	Set	Change setting to desired value.
2	Get	Read projector internal setup value.
4	Increment	Increment setup value by 1.
5	Decrement	Decrement setup value by 1.
6	Execute	Run a command.

Requesting projector status (Get command)

(1) Send the following request code from the PC to the projector.
Header + Command data ('02H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector returns the response code *'1DH' + data (2 bytes)* to the PC.

Changing the projector settings (Set command)

(1) Send the following setting code from the PC to the projector.
Header + Command data ('01H' + '00H' + type (2 bytes) + setting code (2 bytes))
(2) The projector changes the setting based on the above setting code.
(3) The projector returns the response code *'06H'* to the PC.

Using the projector default settings (Reset Command)

(1) The PC sends the following default setting code to the projector.
Header + Command data ('06H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector changes the specified setting to the default value.
(3) The projector returns the response code *'06H'* to the PC.

Increasing the projector setting value (Increment command)

(1) The PC sends the following increment code to the projector.
Header + Command data ('04H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector increases the setting value on the above setting code.
(3) The projector returns the response code *'06H'* to the PC.

Decreasing the projector setting value (Decrement command)

(1) The PC sends the following decrement code to the projector.
Header + Command data ('05H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector decreases the setting value on the above setting code.
(3) The projector returns the response code *'06H'* to the PC.

When the projector cannot understand the received command

When the projector cannot understand the received command, the error code *'15H'* is sent back to the PC.
Sometimes the projector cannot properly receive the command. In such a case, the command is not executed and the error code *'15H'* is sent back to the PC. If this error code is returned, send the same command again.

When the projector cannot execute the received command.

When the projector cannot execute the received command, the error code *'1CH'* + *'xxxxH'* is sent back to the PC.
When the data length is greater than indicated by the data length code, the projector ignore the excess data code. Conversely when the data length is shorter than indicated by the data length code, an error code will be returned to the PC.

When authentication error occurred.

When authentication errorr occurred, the error code the *'1FH'* + *'0400H'* is sent back to the PC.

NOTE • Operation cannot be guaranteed when the projector receives an undefined command or data.
• Provide an interval of at least 40ms between the response code and any other code.
• Commands are not accepted during warm-up.

[TCP #9715]

1. Protocol

Consist of header (1 byte) + data length (1 byte) + command data (13 bytes) + check sum (1 bytes) + connection ID (1 byte).

2. Header

02, Fixed

3. Data Length

Network control commands byte length (0D, Fixed)

4. Command data

Network control commands that start with BE EF (13bytes).

5. Check Sum

This is the value to make zero on the addition of the lower 8 bits from the header to the checksum.

6. Connection ID

Random value from 0 to 255 (This value is attached to the reply data).

7. Reply Data

The connection ID (the data is same as the connection ID data on the sending data format) is attached to the Network control commands reply data.

ACK reply: *'06H'* + *'xxH'*
NAK reply: *'15H'* + *'xxH'*
Error reply: *'1CH'* + *'xxxxH'* + *'xxH'*
Data reply: *'1DH'* + *'xxxxH'* + *'xxH'*
Projector busy reply: *'1FH'* + *'xxxxH'* + *'xxH'*
Authentication error reply: *'1FH'* + *'0400H'* + *'xxH'*
(*'xxH'* : connection ID)

Automatic Connection Break

The TCP connection will be automatically disconnected after there is no communication for 30 seconds after being established.

Authentication

The projector does not accept commands without authentication success when authentication is enabled. The projector uses a challenge response type authentication with an MD5 (Message Digest 5) algorithm. When the projector is using a LAN, a random 8 bytes will be returned if authentication is enabled. Bind this received 8 bytes and the authentication password and digest this data with the MD5 algorithm and add this in front of the commands to send.

Following is a sample if the authentication password is set to "password" and the random 8 bytes are "a572f60c".

1) Select the projector.
2) Receive the random 8 bytes "a572f60c" from the projector.
3) Bind the random 8 bytes "a572f60c" and the authentication password "password" and it becomes "a572f60cpassword".
4) Digest this bind "a572f60cpassword" with MD5 algorithm.
   It will be "e3d97429adffa11bce1f7275813d4bde".
5) Add this "e3d97429adffa11bce1f7275813d4bde" in front of the commands and send the data.
   Send "e3d97429adffa11bce1f7275813d4bde"+command.
6) When the sending data is correct, the command will be performed and the reply data will be returned. Otherwise, an authentication error will be returned.

NOTE • As for the transmission of the second or subsequent commands, the authentication data can be omitted when the same connection.

Names	Operation Type		Header				Command Data		
						CRC	Action	Type	Setting Code
Power	Set	TURN OFF	BE EF	03	06 00	2A D3	01 00	00 60	00 00
		TURN ON	BE EF	03	06 00	BA D2	01 00	00 60	01 00
	Get		BE EF	03	06 00	19 D3	02 00	00 60	00 00
			[Example return] 00 00 [Off] / 01 00 [On] / 02 00 [Cool down]						
Input Source	Set	RGB1	BE EF	03	06 00	FE D2	01 00	00 20	00 00
		RGB2	BE EF	03	06 00	3E D0	01 00	00 20	04 00
		HDMI	BE EF	03	06 00	0E D2	01 00	00 20	03 00
		VIDEO	BE EF	03	06 00	6E D3	01 00	00 20	01 00
		S-VIDEO	BE EF	03	06 00	9E D3	01 00	00 20	02 00
		COMPONENT	BE EF	03	06 00	AE D1	01 00	00 20	05 00
	Get		BE EF	03	06 00	CD D2	02 00	00 20	00 00
Error Status	Get		BE EF	03	06 00	D9 D8	02 00	20 60	00 00
			[Example return] 00 00 [Normal] / 01 00 [Cover error] / 02 00 [Fan error] / 03 00 [Lamp error] 04 00 [Temp error] / 05 00 [Air flow error] / 06 00 [Lamp time error] / 07 00 [Cold error] 08 00 [Filter error]						
BRIGHTNESS	Get		BE EF	03	06 00	89 D2	02 00	03 20	00 00
	Increment		BE EF	03	06 00	EF D2	04 00	03 20	00 00
	Decrement		BE EF	03	06 00	3E D3	05 00	03 20	00 00
BRIGHTNESS Reset	Execute		BE EF	03	06 00	58 D3	06 00	00 70	00 00
CONTRAST	Get		BE EF	03	06 00	FD D3	02 00	04 20	00 00
	Increment		BE EF	03	06 00	9B D3	04 00	04 20	00 00
	Decrement		BE EF	03	06 00	4A D2	05 00	04 20	00 00
CONTRAST Reset	Execute		BE EF	03	06 00	A4 D2	06 00	01 70	00 00
PICTURE MODE	Set	NORMAL	BE EF	03	06 00	23 F6	01 00	BA 30	00 00
		CINEMA	BE EF	03	06 00	B3 F7	01 00	BA 30	01 00
		DYNAMIC	BE EF	03	06 00	E3 F4	01 00	BA 30	04 00
		BOARD(BLACK)	BE EF	03	06 00	E3 EF	01 00	BA 30	20 00
		BOARD(GREEN)	BE EF	03	06 00	73 EE	01 00	BA 30	21 00
		WHITEBOARD	BE EF	03	06 00	83 EE	01 00	BA 30	22 00
		DAY TIME	BE EF	03	06 00	E3 C7	01 00	BA 30	40 00
	Get		BE EF	03	06 00	10 F6	02 00	BA 30	00 00
			[Example return] 00 00 [NORMAL] / 01 00 [CINEMA] / 04 00 [DYNAMIC] / 10 00 [CUSTOM] 20 00 [BOARD(BLACK)] / 21 00 [BOARD(GREEN)] / 22 00 [WHITEBOARD] / 40 00 [DAY TIME]						

Names	Operation Type		Header			CRC	Command Data Action	Type	Setting Code
GAMMA	Set	#1 DEFAULT	BE EF	03	06 00	07 E9	01 00	A1 30	20 00
		#1 CUSTOM	BE EF	03	06 00	07 FD	01 00	A1 30	10 00
		#2 DEFAULT	BE EF	03	06 00	97 E8	01 00	A1 30	21 00
		#2 CUSTOM	BE EF	03	06 00	97 FC	01 00	A1 30	11 00
		#3 DEFAULT	BE EF	03	06 00	67 E8	01 00	A1 30	22 00
		#3 CUSTOM	BE EF	03	06 00	67 FC	01 00	A1 30	12 00
		#4 DEFAULT	BE EF	03	06 00	F7 E9	01 00	A1 30	23 00
		#4 CUSTOM	BE EF	03	06 00	F7 FD	01 00	A1 30	13 00
		#5 DEFAULT	BE EF	03	06 00	C7 EB	01 00	A1 30	24 00
		#5 CUSTOM	BE EF	03	06 00	C7 FF	01 00	A1 30	14 00
		#6 DEFAULT	BE EF	03	06 00	57 EA	01 00	A1 30	25 00
		#6 CUSTOM	BE EF	03	06 00	57 FE	01 00	A1 30	15 00
	Get		BE EF	03	06 00	F4 F0	02 00	A1 30	00 00
User Gamma Pattern	Set	Off	BE EF	03	06 00	FB FA	01 00	80 30	00 00
		9 steps gray scale	BE EF	03	06 00	6B FB	01 00	80 30	01 00
		15 steps gray scale	BE EF	03	06 00	9B FB	01 00	80 30	02 00
		Ramp	BE EF	03	06 00	0B FA	01 00	80 30	03 00
	Get		BE EF	03	06 00	C8 FA	02 00	80 30	00 00
User Gamma Point 1	Get		BE EF	03	06 00	08 FE	02 00	90 30	00 00
	Increment		BE EF	03	06 00	6E FE	04 00	90 30	00 00
	Decrement		BE EF	03	06 00	BF FF	05 00	90 30	00 00
User Gamma Point 2	Get		BE EF	03	06 00	F4 FF	02 00	91 30	00 00
	Increment		BE EF	03	06 00	92 FF	04 00	91 30	00 00
	Decrement		BE EF	03	06 00	43 FE	05 00	91 30	00 00
User Gamma Point 3	Get		BE EF	03	06 00	B0 FF	02 00	92 30	00 00
	Increment		BE EF	03	06 00	D6 FF	04 00	92 30	00 00
	Decrement		BE EF	03	06 00	07 FE	05 00	92 30	00 00
User Gamma Point 4	Get		BE EF	03	06 00	4C FE	02 00	93 30	00 00
	Increment		BE EF	03	06 00	2A FE	04 00	93 30	00 00
	Decrement		BE EF	03	06 00	FB FF	05 00	93 30	00 00
User Gamma Point 5	Get		BE EF	03	06 00	38 FF	02 00	94 30	00 00
	Increment		BE EF	03	06 00	5E FF	04 00	94 30	00 00
	Decrement		BE EF	03	06 00	8F FE	05 00	94 30	00 00
User Gamma Point 6	Get		BE EF	03	06 00	C4 FE	02 00	95 30	00 00
	Increment		BE EF	03	06 00	A2 FE	04 00	95 30	00 00
	Decrement		BE EF	03	06 00	73 FF	05 00	95 30	00 00
User Gamma Point 7	Get		BE EF	03	06 00	80 FE	02 00	96 30	00 00
	Increment		BE EF	03	06 00	E6 FE	04 00	96 30	00 00
	Decrement		BE EF	03	06 00	37 FF	05 00	96 30	00 00
User Gamma Point 8	Get		BE EF	03	06 00	7C FF	02 00	97 30	00 00
	Increment		BE EF	03	06 00	1A FF	04 00	97 30	00 00
	Decrement		BE EF	03	06 00	CB FE	05 00	97 30	00 00

Names	Operation Type		Header			Command Data			
						CRC	Action	Type	Setting Code
COLOR TEMP	Set	HIGH	BE EF	03	06 00	0B F5	01 00	B0 30	03 00
		MID	BE EF	03	06 00	9B F4	01 00	B0 30	02 00
		LOW	BE EF	03	06 00	6B F4	01 00	B0 30	01 00
		Hi-BRIGHT-1	BE EF	03	06 00	3B F2	01 00	B0 30	08 00
		Hi-BRIGHT-2	BE EF	03	06 00	AB F3	01 00	B0 30	09 00
		Hi-BRIGHT-3	BE EF	03	06 00	5B F3	01 00	B0 30	0A 00
		CUSTOM-1(HIGH)	BE EF	03	06 00	CB F8	01 00	B0 30	13 00
		CUSTOM-2(MID)	BE EF	03	06 00	5B F9	01 00	B0 30	12 00
		CUSTOM-3(LOW)	BE EF	03	06 00	AB F9	01 00	B0 30	11 00
		CUSTOM-4(Hi-BRIGHT-1)	BE EF	03	06 00	FB FF	01 00	B0 30	18 00
		CUSTOM-5(Hi-BRIGHT-2)	BE EF	03	06 00	6B FE	01 00	B0 30	19 00
		CUSTOM-6(Hi-BRIGHT-3)	BE EF	03	06 00	98 FE	01 00	B0 00	1A 00
	Get		BE EF	03	06 00	C8 F5	02 00	B0 30	00 00
COLOR TEMP GAIN R	Get		BE EF	03	06 00	34 F4	02 00	B1 30	00 00
	Increment		BE EF	03	06 00	52 F4	04 00	B1 30	00 00
	Decrement		BE EF	03	06 00	83 F5	05 00	B1 30	00 00
COLOR TEMP GAIN G	Get		BE EF	03	06 00	70 F4	02 00	B2 30	00 00
	Increment		BE EF	03	06 00	16 F4	04 00	B2 30	00 00
	Decrement		BE EF	03	06 00	C7 F5	05 00	B2 30	00 00
COLOR TEMP GAIN B	Get		BE EF	03	06 00	8C F5	02 00	B3 30	00 00
	Increment		BE EF	03	06 00	EA F5	04 00	B3 30	00 00
	Decrement		BE EF	03	06 00	3B F4	05 00	B3 30	00 00
COLOR TEMP OFFSET R	Get		BE EF	03	06 00	04 F5	02 00	B5 30	00 00
	Increment		BE EF	03	06 00	62 F5	04 00	B5 30	00 00
	Decrement		BE EF	03	06 00	B3 F4	05 00	B5 30	00 00
COLOR TEMP OFFSET G	Get		BE EF	03	06 00	40 F5	02 00	B6 30	00 00
	Increment		BE EF	03	06 00	26 F5	04 00	B6 30	00 00
	Decrement		BE EF	03	06 00	F7 F4	05 00	B6 30	00 00
COLOR TEMP OFFSET B	Get		BE EF	03	06 00	BC F4	02 00	B7 30	00 00
	Increment		BE EF	03	06 00	DA F4	04 00	B7 30	00 00
	Decrement		BE EF	03	06 00	0B F5	05 00	B7 30	00 00
COLOR	Get		BE EF	03	06 00	B5 72	02 00	02 22	00 00
	Increment		BE EF	03	06 00	D3 72	04 00	02 22	00 00
	Decrement		BE EF	03	06 00	02 73	05 00	02 22	00 00
COLOR Reset	Execute		BE EF	03	06 00	80 D0	06 00	0A 70	00 00
TINT	Get		BE EF	03	06 00	49 73	02 00	03 22	00 00
	Increment		BE EF	03	06 00	2F 73	04 00	03 22	00 00
	Decrement		BE EF	03	06 00	FE 72	05 00	03 22	00 00
TINT Reset	Execute		BE EF	03	06 00	7C D1	06 00	0B 70	00 00
SHARPNESS	Get		BE EF	03	06 00	F1 72	02 00	01 22	00 00
	Increment		BE EF	03	06 00	97 72	04 00	01 22	00 00
	Decrement		BE EF	03	06 00	46 73	05 00	01 22	00 00
SHARPNESS Reset	Execute		BE EF	03	06 00	C4 D0	06 00	09 70	00 00

Names	Operation Type		Header			CRC	Command Data Action	Type	Setting Code
MY MEMORY Load	Set	1	BE EF	03	06 00	0E D7	01 00	14 20	00 00
		2	BE EF	03	06 00	9E D6	01 00	14 20	01 00
		3	BE EF	03	06 00	6E D6	01 00	14 20	02 00
		4	BE EF	03	06 00	FE D7	01 00	14 20	03 00
MY MEMORY Save	Set	1	BE EF	03	06 00	F2 D6	01 00	15 20	00 00
		2	BE EF	03	06 00	62 D7	01 00	15 20	01 00
		3	BE EF	03	06 00	92 D7	01 00	15 20	02 00
		4	BE EF	03	06 00	02 D6	01 00	15 20	03 00
PROGRESSIVE	Set	TURN OFF	BE EF	03	06 00	4A 72	01 00	07 22	00 00
		TV	BE EF	03	06 00	DA 73	01 00	07 22	01 00
		FILM	BE EF	03	06 00	2A 73	01 00	07 22	02 00
	Get		BE EF	03	06 00	79 72	02 00	07 22	00 00
3D-YCS	Set	TURN OFF	BE EF	03	06 00	E6 70	01 00	0A 22	00 00
		MOVIE	BE EF	03	06 00	76 71	01 00	0A 22	01 00
		STILL	BE EF	03	06 00	86 71	01 00	0A 22	02 00
	Get		BE EF	03	06 00	D5 70	02 00	0A 22	00 00
VIDEO NR	Set	LOW	BE EF	03	06 00	26 72	01 00	06 22	01 00
		MID	BE EF	03	06 00	D6 72	01 00	06 22	02 00
		HIGH	BE EF	03	06 00	46 73	01 00	06 22	03 00
	Get		BE EF	03	06 00	85 73	02 00	06 22	00 00
ASPECT	Set	4:3	BE EF	03	06 00	9E D0	01 00	08 20	00 00
		16:9	BE EF	03	06 00	0E D1	01 00	08 20	01 00
		14:9	BE EF	03	06 00	CE D6	01 00	08 20	09 00
		SMALL	BE EF	03	06 00	FE D1	01 00	08 20	02 00
		NORMAL	BE EF	03	06 00	5E DD	01 00	08 20	10 00
	Get		BE EF	03	06 00	AD D0	02 00	08 20	00 00
OVER SCAN	Get		BE EF	03	06 00	91 70	02 00	09 22	00 00
	Increment		BE EF	03	06 00	F7 70	04 00	09 22	00 00
	Decrement		BE EF	03	06 00	26 71	05 00	09 22	00 00
OVER SCAN Reset	Execute		BE EF	03	06 00	EC D9	06 00	27 70	00 00
V POSITION	Get		BE EF	03	06 00	0D 83	02 00	00 21	00 00
	Increment		BE EF	03	06 00	6B 83	04 00	00 21	00 00
	Decrement		BE EF	03	06 00	BA 82	05 00	00 21	00 00
V POSITION Reset	Execute		BE EF	03	06 00	E0 D2	06 00	02 70	00 00
H POSITION	Get		BE EF	03	06 00	F1 82	02 00	01 21	00 00
	Increment		BE EF	03	06 00	97 82	04 00	01 21	00 00
	Decrement		BE EF	03	06 00	46 83	05 00	01 21	00 00
H POSITION Reset	Execute		BE EF	03	06 00	1C D3	06 00	03 70	00 00
H PHASE	Get		BE EF	03	06 00	49 83	02 00	03 21	00 00
	Increment		BE EF	03	06 00	2F 83	04 00	03 21	00 00
	Decrement		BE EF	03	06 00	FE 82	05 00	03 21	00 00
H SIZE	Get		BE EF	03	06 00	B5 82	02 00	02 21	00 00
	Increment		BE EF	03	06 00	D3 82	04 00	02 21	00 00
	Decrement		BE EF	03	06 00	02 83	05 00	02 21	00 00
H SIZE Reset	Execute		BE EF	03	06 00	68 D2	06 00	04 70	00 00
AUTO ADJUST	Execute		BE EF	03	06 00	91 D0	06 00	0A 20	00 00

Names	Operation Type		Header				Command Data		
						CRC	Action	Type	Setting Code
COLOR SPACE	Set	AUTO	BE EF	03	06 00	0E 72	01 00	04 22	00 00
		RGB	BE EF	03	06 00	9E 73	01 00	04 22	01 00
		SMPTE240	BE EF	03	06 00	6E 73	01 00	04 22	02 00
		REC709	BE EF	03	06 00	FE 72	01 00	04 22	03 00
		REC601	BE EF	03	06 00	CE 70	01 00	04 22	04 00
	Get		BE EF	03	06 00	3D 72	02 00	04 22	00 00
COMPONENT	Set	COMPONENT	BE EF	03	06 00	4A D7	01 00	17 20	00 00
		SCART RGB	BE EF	03	06 00	DA D6	01 00	17 20	01 00
	Get		BE EF	03	06 00	79 D7	02 00	17 20	00 00
C-VIDEO FORMAT	Set	AUTO	BE EF	03	06 00	A2 70	01 00	11 22	0A 00
		NTSC	BE EF	03	06 00	C2 74	01 00	11 22	04 00
		PAL	BE EF	03	06 00	52 75	01 00	11 22	05 00
		SECAM	BE EF	03	06 00	52 70	01 00	11 22	09 00
		NTSC4.43	BE EF	03	06 00	62 77	01 00	11 22	02 00
		M-PAL	BE EF	03	06 00	C2 71	01 00	11 22	08 00
		N-PAL	BE EF	03	06 00	32 74	01 00	11 22	07 00
	Get		BE EF	03	06 00	31 76	02 00	11 22	00 00
S-VIDEO FORMAT	Set	AUTO	BE EF	03	06 00	E6 70	01 00	12 22	0A 00
		NTSC	BE EF	03	06 00	86 74	01 00	12 22	04 00
		PAL	BE EF	03	06 00	16 75	01 00	12 22	05 00
		SECAM	BE EF	03	06 00	16 70	01 00	12 22	09 00
		NTSC4.43	BE EF	03	06 00	26 77	01 00	12 22	02 00
		M-PAL	BE EF	03	06 00	86 71	01 00	12 22	08 00
		N-PAL	BE EF	03	06 00	76 74	01 00	12 22	07 00
	Get		BE EF	03	06 00	75 76	02 00	12 22	00 00
HDMI	Set	AUTO	BE EF	03	06 00	86 D8	01 00	22 20	00 00
		NORMAL	BE EF	03	06 00	16 D9	01 00	22 20	01 00
		ENHANCED	BE EF	03	06 00	E6 D9	01 00	22 20	02 00
	Get		BE EF	03	06 00	B5 D8	02 00	22 20	00 00
RGB 1	Set	SYNC ON G OFF	BE EF	03	06 00	5E D7	01 00	10 20	02 00
		AUTO	BE EF	03	06 00	CE D6	01 00	10 20	03 00
	Get		BE EF	03	06 00	0D D6	02 00	10 20	00 00
RGB 2	Set	SYNC ON G OFF	BE EF	03	06 00	A2 D6	01 00	11 20	02 00
		AUTO	BE EF	03	06 00	32 D7	01 00	11 20	03 00
	Get		BE EF	03	06 00	F1 D7	02 00	11 20	00 00

Names	Operation Type		Header				Command Data		
						CRC	Action	Type	Setting Code
FRAME LOCK RGB1	Set	TURN OFF	BE EF	03	06 00	3B 2C	01 00	50 30	00 00
		TURN ON	BE EF	03	06 00	AB C3	01 00	50 30	01 00
	Get		BE EF	03	06 00	08 C2	02 00	50 30	00 00
FRAME LOCK RGB2	Set	TURN OFF	BE EF	03	06 00	0B C3	01 00	54 30	00 00
		TURN ON	BE EF	03	06 00	9B 2C	01 00	54 30	01 00
	Get		BE EF	03	06 00	38 C3	02 00	54 30	00 00
FRAME LOCK HDMI	Set	TURN OFF	BE EF	03	06 00	7F C2	01 00	53 30	00 00
		TURN ON	BE EF	03	06 00	EF C3	01 00	53 30	01 00
	Get		BE EF	03	06 00	4C C2	02 00	53 30	00 00
KEYSTONE V	Get		BE EF	03	06 00	B9 D3	02 00	07 20	00 00
	Increment		BE EF	03	06 00	DF D3	04 00	07 20	00 00
	Decrement		BE EF	03	06 00	0E D2	05 00	07 20	00 00
KEYSTONE V Reset	Execute		BE EF	03	06 00	08 D0	06 00	0C 70	00 00
AUTO KEYSTONE V EXECUTE	Execute		BE EF	03	06 00	E5 D1	06 00	0D 20	00 00
AUTO KEYSTONE V	Set	TURN OFF	BE EF	03	06 00	EA D1	01 00	0F 20	00 00
		TURN ON	BE EF	03	06 00	7A D0	01 00	0F 20	01 00
	Get		BE EF	03	06 00	D9 D1	02 00	0F 20	00 00
KEYSTONE H	Get		BE EF	03	06 00	E9 D0	02 00	0B 20	00 00
	Increment		BE EF	03	06 00	8F D0	04 00	0B 20	00 00
	Decrement		BE EF	03	06 00	5E D1	05 00	0B 20	00 00
KEYSTONE H Reset	Execute		BE EF	03	06 00	98 D8	06 00	20 70	00 00
ACTIVE IRIS	Set	TURN OFF	BE EF	03	06 00	0B 22	01 00	04 33	00 00
		THEATER	BE EF	03	06 00	CB 2F	01 00	04 33	10 00
		PRESENTATION	BE EF	03	06 00	5B 2E	01 00	04 33	11 00
	Get		BE EF	03	06 00	38 22	02 00	04 33	00 00
WHISPER	Set	NORMAL	BE EF	03	06 00	3B 23	01 00	00 33	00 00
		WHISPER	BE EF	03	06 00	AB 22	01 00	00 33	01 00
	Get		BE EF	03	06 00	08 23	02 00	00 33	00 00
MIRROR	Set	NORMAL	BE EF	03	06 00	C7 D2	01 00	01 30	00 00
		H:INVERT	BE EF	03	06 00	57 D3	01 00	01 30	01 00
		V:INVERT	BE EF	03	06 00	A7 D3	01 00	01 30	02 00
		H&V:INVERT	BE EF	03	06 00	37 D2	01 00	01 30	03 00
	Get		BE EF	03	06 00	F4 D2	02 00	01 30	00 00
VOLUME-RGB1	Get		BE EF	03	06 00	CD CC	02 00	60 20	00 00
	Increment		BE EF	03	06 00	AB CC	04 00	60 20	00 00
	Decrement		BE EF	03	06 00	7A CD	05 00	60 20	00 00
VOLUME-RGB2	Get		BE EF	03	06 00	FD CD	02 00	64 20	00 00
	Increment		BE EF	03	06 00	9B CD	04 00	64 20	00 00
	Decrement		BE EF	03	06 00	4A CC	05 00	64 20	00 00
VOLUME-HDMI	Get		BE EF	03	06 00	89 CC	02 00	63 20	00 00
	Increment		BE EF	03	06 00	EF CC	04 00	63 20	00 00
	Decrement		BE EF	03	06 00	3E CD	05 00	63 20	00 00
VOLUME-VIDEO	Get		BE EF	03	06 00	31 CD	02 00	61 20	00 00
	Increment		BE EF	03	06 00	57 CD	04 00	61 20	00 00
	Decrement		BE EF	03	06 00	86 CC	05 00	61 20	00 00
VOLUME-S-VIDEO	Get		BE EF	03	06 00	75 CD	02 00	62 20	00 00
	Increment		BE EF	03	06 00	13 CD	04 00	62 20	00 00
	Decrement		BE EF	03	06 00	C2 CC	05 00	62 20	00 00

Names	Operation Type	Header				Command Data		
					CRC	Action	Type	Setting Code
VOLUME-COMPONENT	Get	BE EF	03	06 00	01 CC	02 00	65 20	00 00
	Increment	BE EF	03	06 00	67 CC	04 00	65 20	00 00
	Decrement	BE EF	03	06 00	B6 CD	05 00	65 20	00 00
TREBLE-RGB1	Get	BE EF	03	06 00	0D C8	02 00	70 20	00 00
	Increment	BE EF	03	06 00	6B C8	04 00	70 20	00 00
	Decrement	BE EF	03	06 00	BA C9	05 00	70 20	00 00
TREBLE-RGB2	Get	BE EF	03	06 00	3D C9	02 00	74 20	00 00
	Increment	BE EF	03	06 00	5B C9	04 00	74 20	00 00
	Decrement	BE EF	03	06 00	8A C8	05 00	74 20	00 00
TREBLE-HDMI	Get	BE EF	03	06 00	49 C8	02 00	73 20	00 00
	Increment	BE EF	03	06 00	2F C8	04 00	73 20	00 00
	Decrement	BE EF	03	06 00	FE C9	05 00	73 20	00 00
TREBLE-VIDEO	Get	BE EF	03	06 00	F1 C9	02 00	71 20	00 00
	Increment	BE EF	03	06 00	97 C9	04 00	71 20	00 00
	Decrement	BE EF	03	06 00	46 C8	05 00	71 20	00 00
TREBLE-S-VIDEO	Get	BE EF	03	06 00	B5 C9	02 00	72 20	00 00
	Increment	BE EF	03	06 00	D3 C9	04 00	72 20	00 00
	Decrement	BE EF	03	06 00	02 C8	05 00	72 20	00 00
TREBLE-COMPONENT	Get	BE EF	03	06 00	C1 C8	02 00	75 20	00 00
	Increment	BE EF	03	06 00	A7 C8	04 00	75 20	00 00
	Decrement	BE EF	03	06 00	76 C9	05 00	75 20	00 00
BASS-RGB1	Get	BE EF	03	06 00	0D FB	02 00	80 20	00 00
	Increment	BE EF	03	06 00	6B FB	04 00	80 20	00 00
	Decrement	BE EF	03	06 00	BA FA	05 00	80 20	00 00
BASS-RGB2	Get	BE EF	03	06 00	3D FA	02 00	84 20	00 00
	Increment	BE EF	03	06 00	5B FA	04 00	84 20	00 00
	Decrement	BE EF	03	06 00	8A FB	05 00	84 20	00 00
BASS-HDMI	Get	BE EF	03	06 00	49 FB	02 00	83 20	00 00
	Increment	BE EF	03	06 00	2F FB	04 00	83 20	00 00
	Decrement	BE EF	03	06 00	FE FA	05 00	83 20	00 00
BASS-VIDEO	Get	BE EF	03	06 00	F1 FA	02 00	81 20	00 00
	Increment	BE EF	03	06 00	97 FA	04 00	81 20	00 00
	Decrement	BE EF	03	06 00	46 FB	05 00	81 20	00 00
BASS-S-VIDEO	Get	BE EF	03	06 00	B5 FA	02 00	82 20	00 00
	Increment	BE EF	03	06 00	D3 FA	04 00	82 20	00 00
	Decrement	BE EF	03	06 00	02 FB	05 00	82 20	00 00
BASS-COMPONENT	Get	BE EF	03	06 00	C1 FB	02 00	85 20	00 00
	Increment	BE EF	03	06 00	A7 FB	04 00	85 20	00 00
	Decrement	BE EF	03	06 00	76 FA	05 00	85 20	00 00

Names	Operation Type		Header			CRC	Action	Type	Setting Code
SRS WOW – RGB1	Set	TURN OFF	BE EF	03	06 00	FE FF	01 00	90 20	00 00
		MID	BE EF	03	06 00	9E FE	01 00	90 20	02 00
		HIGH	BE EF	03	06 00	0E FF	01 00	90 20	03 00
	Get		BE EF	03	06 00	CD FF	02 00	90 20	00 00
SRS WOW – RGB2	Set	TURN OFF	BE EF	03	06 00	CE FE	01 00	94 20	00 00
		MID	BE EF	03	06 00	AE FF	01 00	94 20	02 00
		HIGH	BE EF	03	06 00	3E FF	01 00	94 20	03 00
	Get		BE EF	03	06 00	FD FE	02 00	94 20	00 00
SRS WOW – HDMI	Set	TURN OFF	BE EF	03	06 00	BA FF	01 00	93 20	00 00
		MID	BE EF	03	06 00	DA FE	01 00	93 20	02 00
		HIGH	BE EF	03	06 00	4A FF	01 00	93 20	03 00
	Get		BE EF	03	06 00	89 FF	02 00	93 20	00 00
SRS WOW – VIDEO	Set	TURN OFF	BE EF	03	06 00	02 FE	01 00	91 20	00 00
		MID	BE EF	03	06 00	62 FF	01 00	91 20	02 00
		HIGH	BE EF	03	06 00	F2 FE	01 00	91 20	03 00
	Get		BE EF	03	06 00	31 FE	02 00	91 20	00 00
SRS WOW – S-VIDEO	Set	TURN OFF	BE EF	03	06 00	46 FE	01 00	92 20	00 00
		MID	BE EF	03	06 00	26 FF	01 00	92 20	02 00
		HIGH	BE EF	03	06 00	B6 FE	01 00	92 20	03 00
	Get		BE EF	03	06 00	75 FE	02 00	92 20	00 00
SRS WOW – COMPONENT	Set	TURN OFF	BE EF	03	06 00	32 FF	01 00	95 20	00 00
		MID	BE EF	03	06 00	52 FE	01 00	95 20	02 00
		HIGH	BE EF	03	06 00	C2 FF	01 00	95 20	03 00
	Get		BE EF	03	06 00	01 FF	02 00	95 20	00 00
MUTE	Set	TURN OFF	BE EF	03	06 00	46 D3	01 00	02 20	00 00
		TURN ON	BE EF	03	06 00	D6 D2	01 00	02 20	01 00
	Get		BE EF	03	06 00	75 D3	02 00	02 20	00 00
SPEAKER	Set	TURN OFF	BE EF	03	06 00	6E D5	01 00	1C 20	00 00
		TURN ON	BE EF	03	06 00	FE D4	01 00	1C 20	01 00
	Get		BE EF	03	06 00	5D D5	02 00	1C 20	00 00

(Action, Type and Setting Code are under Command Data.)

Names	Operation Type		Header			Command Data			
						CRC	Action	Type	Setting Code
AUDIO - RGB1	Set	TURN OFF	BE EF	03	06 00	FE DD	01 00	30 20	00 00
		Audio1	BE EF	03	06 00	6E DC	01 00	30 20	01 00
		Audio2	BE EF	03	06 00	9E DC	01 00	30 20	02 00
		Audio3	BE EF	03	06 00	0E DD	01 00	30 20	03 00
		Audio4	BE EF	03	06 00	3E DF	01 00	30 20	04 00
	Get		BE EF	03	06 00	CD DD	02 00	30 20	00 00
AUDIO - RGB2	Set	TURN OFF	BE EF	03	06 00	CE DC	01 00	34 20	00 00
		Audio1	BE EF	03	06 00	5E DD	01 00	34 20	01 00
		Audio2	BE EF	03	06 00	AE DD	01 00	34 20	02 00
		Audio3	BE EF	03	06 00	3E DC	01 00	34 20	03 00
		Audio4	BE EF	03	06 00	0E DE	01 00	34 20	04 00
	Get		BE EF	03	06 00	FD DC	02 00	34 20	00 00
AUDIO - HDMI	Set	TURN OFF	BE EF	03	06 00	BA DD	01 00	33 20	00 00
		Audio1	BE EF	03	06 00	2A DC	01 00	33 20	01 00
		Audio2	BE EF	03	06 00	DA DC	01 00	33 20	02 00
		Audio3	BE EF	03	06 00	4A DD	01 00	33 20	03 00
		Audio4	BE EF	03	06 00	7A DF	01 00	33 20	04 00
		Audio HDMI	BE EF	03	06 00	7A C4	01 00	33 20	20 00
	Get		BE EF	03	06 00	89 DD	02 00	33 20	00 00
AUDIO - VIDEO	Set	TURN OFF	BE EF	03	06 00	02 DC	01 00	31 20	00 00
		Audio1	BE EF	03	06 00	92 DD	01 00	31 20	01 00
		Audio2	BE EF	03	06 00	62 DD	01 00	31 20	02 00
		Audio3	BE EF	03	06 00	F2 DC	01 00	31 20	03 00
		Audio4	BE EF	03	06 00	C2 DE	01 00	31 20	04 00
	Get		BE EF	03	06 00	31 DC	02 00	31 20	00 00
AUDIO - S-VIDEO	Set	TURN OFF	BE EF	03	06 00	46 DC	01 00	32 20	00 00
		Audio1	BE EF	03	06 00	D6 DD	01 00	32 20	01 00
		Audio2	BE EF	03	06 00	26 DD	01 00	32 20	02 00
		Audio3	BE EF	03	06 00	B6 DC	01 00	32 20	03 00
		Audio4	BE EF	03	06 00	86 DE	01 00	32 20	04 00
	Get		BE EF	03	06 00	75 DC	02 00	32 20	00 00
AUDIO - COMPONENT	Set	TURN OFF	BE EF	03	06 00	32 DD	01 00	35 20	00 00
		Audio1	BE EF	03	06 00	A2 DC	01 00	35 20	01 00
		Audio2	BE EF	03	06 00	52 DC	01 00	35 20	02 00
		Audio3	BE EF	03	06 00	C2 DD	01 00	35 20	03 00
		Audio4	BE EF	03	06 00	F2 DF	01 00	35 20	04 00
	Get		BE EF	03	06 00	01 DD	02 00	35 20	00 00
HDMI AUDIO	Set	1	BE EF	03	06 00	AE C6	01 00	40 20	01 00
		2	BE EF	03	06 00	5E C6	01 00	40 20	02 00
	Get		BE EF	03	06 00	0D C7	02 00	40 20	00 00

Names	Operation Type		Header				Command Data		
						CRC	Action	Type	Setting Code
REMOTE RECEIV. FRONT	Set	Off	BE EF	03	06 00	FF 32	01 00	00 26	00 00
		On	BE EF	03	06 00	6F 33	01 00	00 26	01 00
	Get		BE EF	03	06 00	CC 32	02 00	00 26	00 00
REMOTE RECEIV. TOP	Set	Off	BE EF	03	06 00	47 33	01 00	02 26	00 00
		On	BE EF	03	06 00	D7 32	01 00	02 26	01 00
	Get		BE EF	03	06 00	74 33	02 00	02 26	00 00
REMOTE RECEIV. REAR	Set	Off	BE EF	03	06 00	03 33	01 00	01 26	00 00
		On	BE EF	03	06 00	93 32	01 00	01 26	01 00
	Get		BE EF	03	06 00	30 33	02 00	01 26	00 00
REMOTE FREQ. NORMAL	Set	Off	BE EF	03	06 00	FF 3D	01 00	30 26	00 00
		On	BE EF	03	06 00	6F 3C	01 00	30 26	01 00
	Get		BE EF	03	06 00	CC 3D	02 00	30 26	00 00
REMOTE FREQ. HIGH	Set	Off	BE EF	03	06 00	03 3C	01 00	31 26	00 00
		On	BE EF	03	06 00	93 3D	01 00	31 26	01 00
	Get		BE EF	03	06 00	30 3C	02 00	31 26	00 00
LANGUAGE	Set	ENGLISH	BE EF	03	06 00	F7 D3	01 00	05 30	00 00
		FRANÇAIS	BE EF	03	06 00	67 D2	01 00	05 30	01 00
		DEUTSCH	BE EF	03	06 00	97 D2	01 00	05 30	02 00
		ESPAÑOL	BE EF	03	06 00	07 D3	01 00	05 30	03 00
		ITALIANO	BE EF	03	06 00	37 D1	01 00	05 30	04 00
		NORSK	BE EF	03	06 00	A7 D0	01 00	05 30	05 00
		NEDERLANDS	BE EF	03	06 00	57 D0	01 00	05 30	06 00
		PORTUGUÊS	BE EF	03	06 00	C7 D1	01 00	05 30	07 00
		日本語	BE EF	03	06 00	37 D4	01 00	05 30	08 00
		简体中文	BE EF	03	06 00	A7 D5	01 00	05 30	09 00
		繁體中文	BE EF	03	06 00	37 DE	01 00	05 30	10 00
		한글	BE EF	03	06 00	57 D5	01 00	05 30	0A 00
		SVENSKA	BE EF	03	06 00	C7 D4	01 00	05 30	0B 00
		РУССКИЙ	BE EF	03	06 00	F7 D6	01 00	05 30	0C 00
		SUOMI	BE EF	03	06 00	67 D7	01 00	05 30	0D 00
		POLSKI	BE EF	03	06 00	97 D7	01 00	05 30	0E 00
		TÜRKÇE	BE EF	03	06 00	07 D6	01 00	05 30	0F 00
	Get		BE EF	03	06 00	C4 D3	02 00	05 30	00 00
MENU POSITION H	Get		BE EF	03	06 00	04 D7	02 00	15 30	00 00
	Increment		BE EF	03	06 00	62 D7	04 00	15 30	00 00
	Decrement		BE EF	03	06 00	B3 D6	05 00	15 30	00 00
MENU POSITION H Reset	Execute		BE EF	03	06 00	DC C6	06 00	43 70	00 00
MENU POSITION V	Get		BE EF	03	06 00	40 D7	02 00	16 30	00 00
	Increment		BE EF	03	06 00	26 D7	04 00	16 30	00 00
	Decrement		BE EF	03	06 00	F7 D6	05 00	16 30	00 00
MENU POSITION V Reset	Execute		BE EF	03	06 00	A8 C7	06 00	44 70	00 00

Names	Operation Type		Header				Command Data		
						CRC	Action	Type	Setting Code
BLANK	Set	My Screen	BE EF	03	06 00	FB CA	01 00	00 30	20 00
		ORIGINAL	BE EF	03	06 00	FB E2	01 00	00 30	40 00
		BLUE	BE EF	03	06 00	CB D3	01 00	00 30	03 00
		WHITE	BE EF	03	06 00	6B D0	01 00	00 30	05 00
		BLACK	BE EF	03	06 00	9B D0	01 00	00 30	06 00
	Get		BE EF	03	06 00	08 D3	02 00	00 30	00 00
BLANK On/Off	Set	TURN OFF	BE EF	03	06 00	FB D8	01 00	20 30	00 00
		TURN ON	BE EF	03	06 00	6B D9	01 00	20 30	01 00
	Get		BE EF	03	06 00	C8 D8	02 00	20 30	00 00
START UP	Set	My Screen	BE EF	03	06 00	CB CB	01 00	04 30	20 00
		ORIGINAL	BE EF	03	06 00	0B D2	01 00	04 30	00 00
		TURN OFF	BE EF	03	06 00	9B D3	01 00	04 30	01 00
	Get		BE EF	03	06 00	38 D2	02 00	04 30	00 00
My Screen LOCK	Set	TURN OFF	BE EF	03	06 00	3B EF	01 00	C0 30	00 00
		TURN ON	BE EF	03	06 00	AB EE	01 00	C0 30	01 00
	Get		BE EF	03	06 00	08 EF	02 00	C0 30	00 00
MESSAGE	Set	TURN OFF	BE EF	03	06 00	8F D6	01 00	17 30	00 00
		TURN ON	BE EF	03	06 00	1F D7	01 00	17 30	01 00
	Get		BE EF	03	06 00	BC D6	02 00	17 30	00 00
AUTO SEARCH	Set	TURN OFF	BE EF	03	06 00	B6 D6	01 00	16 20	00 00
		TURN ON	BE EF	03	06 00	26 D7	01 00	16 20	01 00
	Get		BE EF	03	06 00	85 D6	02 00	16 20	00 00
AUTO OFF	Get		BE EF	03	06 00	08 86	02 00	10 31	00 00
	Increment		BE EF	03	06 00	6E 86	04 00	10 31	00 00
	Decrement		BE EF	03	06 00	BF 87	05 00	10 31	00 00
AUTO ON	Set	TURN OFF	BE EF	03	06 00	3B 89	01 00	20 31	00 00
		TURN ON	BE EF	03	06 00	AB 88	01 00	20 31	01 00
	Get		BE EF	03	06 00	08 89	02 00	20 31	00 00
LAMP TIME	Get		BE EF	03	06 00	C2 FF	02 00	90 10	00 00
LAMP TIME Reset	Execute		BE EF	03	06 00	58 DC	06 00	30 70	00 00
FILTER TIME	Get		BE EF	03	06 00	C2 F0	02 00	A0 10	00 00
FILER TIME Reset	Execute		BE EF	03	06 00	98 C6	06 00	40 70	00 00

Names	Operation Type		Header			CRC	Action	Type	Setting Code
MY BUTTON-1	Set	RGB1	BE EF	03	06 00	3A 33	01 00	00 36	00 00
		RGB2	BE EF	03	06 00	FA 31	01 00	00 36	04 00
		HDMI	BE EF	03	06 00	CA 33	01 00	00 36	03 00
		COMPONENT	BE EF	03	06 00	6A 30	01 00	00 36	05 00
		S-VIDEO	BE EF	03	06 00	5A 32	01 00	00 36	02 00
		VIDEO	BE EF	03	06 00	AA 32	01 00	00 36	01 00
		INFORMATION	BE EF	03	06 00	FA 3E	01 00	00 36	10 00
		AUTO KEYSTONE V	BE EF	03	06 00	6A 3F	01 00	00 36	11 00
		MY MEMORY	BE EF	03	06 00	9A 3F	01 00	00 36	12 00
		PICTURE MODE	BE EF	03	06 00	0A 3E	01 00	00 36	13 00
		FILTER RESET	BE EF	03	06 00	3A 3C	01 00	00 36	14 00
		ACTIVE IRIS	BE EF	03	06 00	AA 3D	01 00	00 36	15 00
		e-SHOT	BE EF	03	06 00	5A 3D	01 00	00 36	16 00
		VOLUME +	BE EF	03	06 00	CA 3C	01 00	00 36	17 00
		VOLUME -	BE EF	03	06 00	3A 39	01 00	00 36	18 00
		AV MUTE	BE EF	03	06 00	AA 38	01 00	00 36	19 00
	Get		BE EF	03	06 00	09 33	02 00	00 36	00 00
MY BUTTON-2	Set	RGB1	BE EF	03	06 00	C6 32	01 00	01 36	00 00
		RGB2	BE EF	03	06 00	06 30	01 00	01 36	04 00
		HDMI	BE EF	03	06 00	36 32	01 00	01 36	03 00
		COMPONENT	BE EF	03	06 00	96 31	01 00	01 36	05 00
		S-VIDEO	BE EF	03	06 00	A6 33	01 00	01 36	02 00
		VIDEO	BE EF	03	06 00	56 33	01 00	01 36	01 00
		INFORMATION	BE EF	03	06 00	06 3F	01 00	01 36	10 00
		AUTO KEYSTONE V	BE EF	03	06 00	96 3E	01 00	01 36	11 00
		MY MEMORY	BE EF	03	06 00	66 3E	01 00	01 36	12 00
		PICTURE MODE	BE EF	03	06 00	F6 3F	01 00	01 36	13 00
		FILTER RESET	BE EF	03	06 00	C6 3D	01 00	01 36	14 00
		ACTIVE IRIS	BE EF	03	06 00	56 3C	01 00	01 36	15 00
		e-SHOT	BE EF	03	06 00	A6 3C	01 00	01 36	16 00
		VOLUME +	BE EF	03	06 00	36 3D	01 00	01 36	17 00
		VOLUME -	BE EF	03	06 00	C6 38	01 00	01 36	18 00
		AV MUTE	BE EF	03	06 00	56 39	01 00	01 36	19 00
	Get		BE EF	03	06 00	F5 32	02 00	01 36	00 00

Names	Operation Type		Header				Command Data		
						CRC	Action	Type	Setting Code
MAGNIFY	Get		BE EF	03	06 00	7C D2	02 00	07 30	00 00
	Increment		BE EF	03	06 00	1A D2	04 00	07 30	00 00
	Decrement		BE EF	03	06 00	CB D3	05 00	07 30	00 00
FREEZE	Set	NORMAL	BE EF	03	06 00	83 D2	01 00	02 30	00 00
		FREEZE	BE EF	03	06 00	13 D3	01 00	02 30	01 00
	Get		BE EF	03	06 00	B0 D2	02 00	02 30	00 00
e-SHOT	Set	OFF	BE EF	03	06 00	3A C3	01 00	00 35	00 00
		IMAGE 1	BE EF	03	06 00	AA C2	01 00	00 35	01 00
		IMAGE 2	BE EF	03	06 00	5A C2	01 00	00 35	02 00
		IMAGE 3	BE EF	03	06 00	CA C3	01 00	00 35	03 00
		IMAGE 4	BE EF	03	06 00	FA C1	01 00	00 35	04 00
	Get		BE EF	03	06 00	09 C3	02 00	00 35	00 00
e-SHOT IMAGE1 Delete	Execute		BE EF	03	06 00	71 C3	06 00	01 35	00 00
e-SHOT IMAGE2 Delete	Execute		BE EF	03	06 00	35 C3	06 00	02 35	00 00
e-SHOT IMAGE3 Delete	Execute		BE EF	03	06 00	C9 C2	06 00	03 35	00 00
e-SHOT IMAGE4 Delete	Execute		BE EF	03	06 00	BD C3	06 00	04 35	00 00